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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,594	05/23/2001	Jorg Rheims	VOI0189.US	9308

7590 08/17/2005
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EXAMINER

HUG, ERIC J

ART UNIT PAPER NUMBER

1731

DATE MAILED: 08/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/863,594	Applicant(s) RHEIMS ET AL.	
	Examiner Eric Hug	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

The following is in response to the amendment filed on August 3, 2005.

In view of the arguments filed on August 3, 2005, PROSECUTION IS HEREBY REOPENED.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-11 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klungness et al (US 5,223,090) in view of Wu et al (US 6,074,524) and LaRiviere (US 6,077,396).

Klungness discloses the steps of providing a fiber stock suspension between pH of 10-13, adding at least one additive to the fiber suspension, and treating the fiber suspension and additive in a refiner, thereby yielding calcium carbonate on the fiber surfaces. The fibers may be mechanically treated by refining or beating prior to chemical treatment (column 6, lines 1-7). Column 7, lines 16-41 discusses the use of a pressurized refiner. This process differs from that of the present invention in that a refiner or beater is used rather than a fluffer.

Wu discloses fluff pulp products that are obtained by defiberizing pulp under low energy conditions which provides the pulp fibers with high surface area. The fibers are not refined or are only lightly refined. The fibers advantageously allows for attachment of filler particles to the fibrous surfaces. Wu teaches that the low-energy defiberized pulps are preferable over highly

Art Unit: 1731

refined pulps in producing fluff pulps. If Wu does not sufficiently disclose a "fluffer" per se for defiberizing the pulps, it would be obvious to one skilled in the art that the low-shear device used by Wu is equivalently a fluffer. The defiberization energy requirement of Wu is less than 90 kJ/kg (column 15, lines 15-17). This reads on the claimed energy requirement as shown below:

$$1000 \text{ kJ} = 0.277 \text{ kWh}$$

$$1000 \text{ kg} = 1.1 \text{ ton (assuming 'ton' is an English ton, rather than a metric ton).}$$

$$90 \text{ kJ/kg} = 90 \text{ kJ/kg} * (0.277 \text{ kWh}/1000\text{kJ}) * (1000 \text{ kg}/1.1 \text{ t}) = 22.72 \text{ kWh/t},$$

which falls between the claimed 5-200 kWh/t.

LaRiviere is cited here to further exemplify the known use of fluffers to defiberize pulp materials for the purpose of providing greater surface area available for chemical treatment without comminuting the pulp. The minimum energy requirement of LaRiviere is 0.4 HP/TPD (horsepower/tons per day) (column 6, line 58). This reads on the claimed energy requirement as shown below:

$$1 \text{ HPH (horsepower-hour)} = 0.746 \text{ kWh}$$

$$1 \text{ day} = 24 \text{ hours}$$

$$0.4 \text{ HP/TPD} = 0.4 \text{ HP-day/ton} * (24 \text{ hr/day}) * (0.746 \text{ kWh/HPH}) = 7.16 \text{ kWh/t},$$

which clearly overlaps the claimed range of 5-200 kWh/t.

Therefore, at the time of the invention it would have been obvious to one skilled in the art to replace the refiner of Klungness with a fluffer, as disclosed by Wu and LaRiviere, to defiberize the pulp at low energy, thereby increasing available surface area for chemical treatment without adversely affecting pulp quality. Note that in column 7, lines 57-61 of Klungness, it is disclosed that better filler retention is possible by using a low-shear container

Art Unit: 1731

rather than a refiner. Thus, the teachings of Wu and LaRiviere do not teach against those of Klungness.

All other claimed features are disclosed by Klungness or are obvious known modifications thereof.

Response to Arguments

Applicant's argument filed August 3, 2005 have been fully considered.

The amendments to the claims have overcome the rejections under 35 U.S.C. 112, first paragraph, set forth previously.

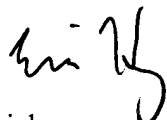
The rejections under 35 U.S.C. 103(a) based on Green (US 4,510,020) have been withdrawn. It is recognized that Green teaches a different process for loading pulp with filler which emphasizes the refining and cutting of fibers.

Art Unit: 1731

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192. The examiner can normally be reached on Monday through Friday, 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


jeh